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A New approach for a Galactic Synchrotron Polarized Emission Template in the Microwave Range [G. Bernardi et al.] G. Bernardi,[1,2] E. Carretti,[1] R. Fabbri,[3] C. Sbarra,[1] S. Poppi,[4] S. Cortiglioni[1]

24 October 2002

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abstract We present a new approach in modelling the polarized Galactic synchrotron emission in the microwave range (20-100 GHz), where this radiation is expected to play the leading role in contaminating the Cosmic Microwave Background (CMB) data. Our method is based on real surveys and aims at providing the real spatial distributions of both polarized intensity and polarization angles. Its main features are the modelling of a polarization horizon to determine the polarized intensity and the use of starlight optical data to model the polarization angle pattern. Our results are consistent with several existing data, and our template is virtually free from Faraday rotation effects as required at frequencies in the cosmological window.